Torque Converter Clutch Shudder and Vibration Job Aid

If you have a suspected TC shudder/vibration, check the Interactive Network for Service Bulletins for the vehicle you are working on. If all updates have been done and the problem is still present, a test drive snap shot may help you isolate the source of the issue.

Follow the instructions below to capture and evaluate the snapshot. If the data shows RPM fluctuations similar to the examples of a faulty torque converter shown here, a torque converter and transmission fluid replacement may be necessary. If the snapshot does not compare with the sample snapshots of the faulty torque converter and look similar to the snapshots of known good torque converters, send the snapshots to Tech Line for evaluation.

Setting up the snapshot:

1. Select Snapshot from the A/T mode menu.
2. Select manual trigger, 30 seconds, with the trigger point in the middle.
3. Test drive the vehicle and press the Camera icon when you feel the vibration.

   DRIVING TIP: To duplicate, maintain a steady throttle, and as soon as you feel the shudder, hit the Camera icon

   NOTE: Quick changes in the throttle will not result in a good snapshot.
4. Enter standalone mode. Click on the open folder icon , and select your snapshot.
5. Click the configuration icon and select the following parameters in the Line column:
   - Engine Speed,
   - Input Shaft (Mainshaft) Speed (rpm)
   - Output Shaft (CounterShaft) Speed (rpm)
   - TP Sensor 1
   - Shift Control
6. Click the line graph icon.
7. Click the graph configuration icon and adjust the Max scale to 3000 RPM for Engine Speed, Input Shaft (Mainshaft) Speed (rpm) Output Shaft (Countershaft) Speed (rpm).
8. Click OK.

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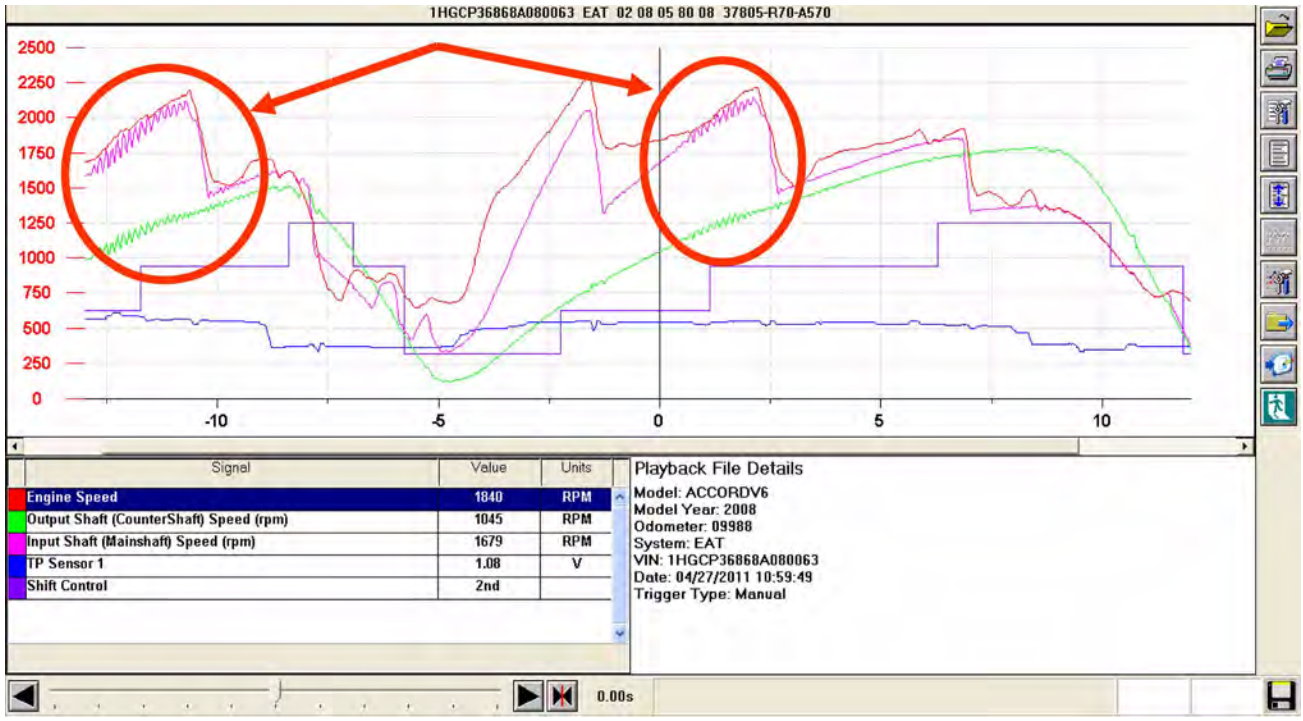
Evaluating the snapshot:

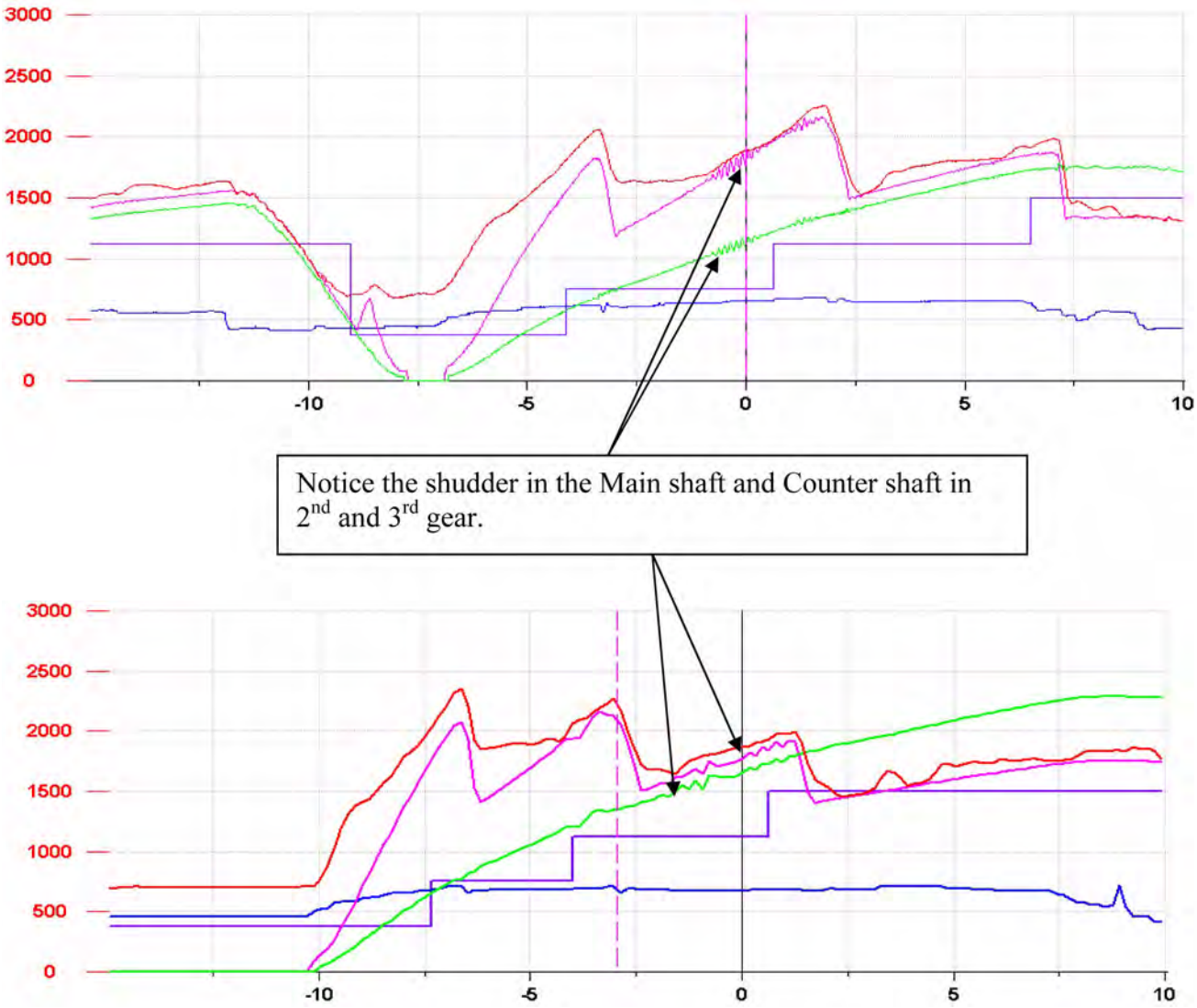
To determine if the vibration you're feeling in the vehicle is being caused by the torque converter, you need to examine the relationship between Engine Speed and transmission Input (Main) and Output (Counter) Shaft Speed.

In a vehicle with a known good torque converter, Engine Speed, Input Shaft and Output Shaft speeds will all be smooth. See the example below:

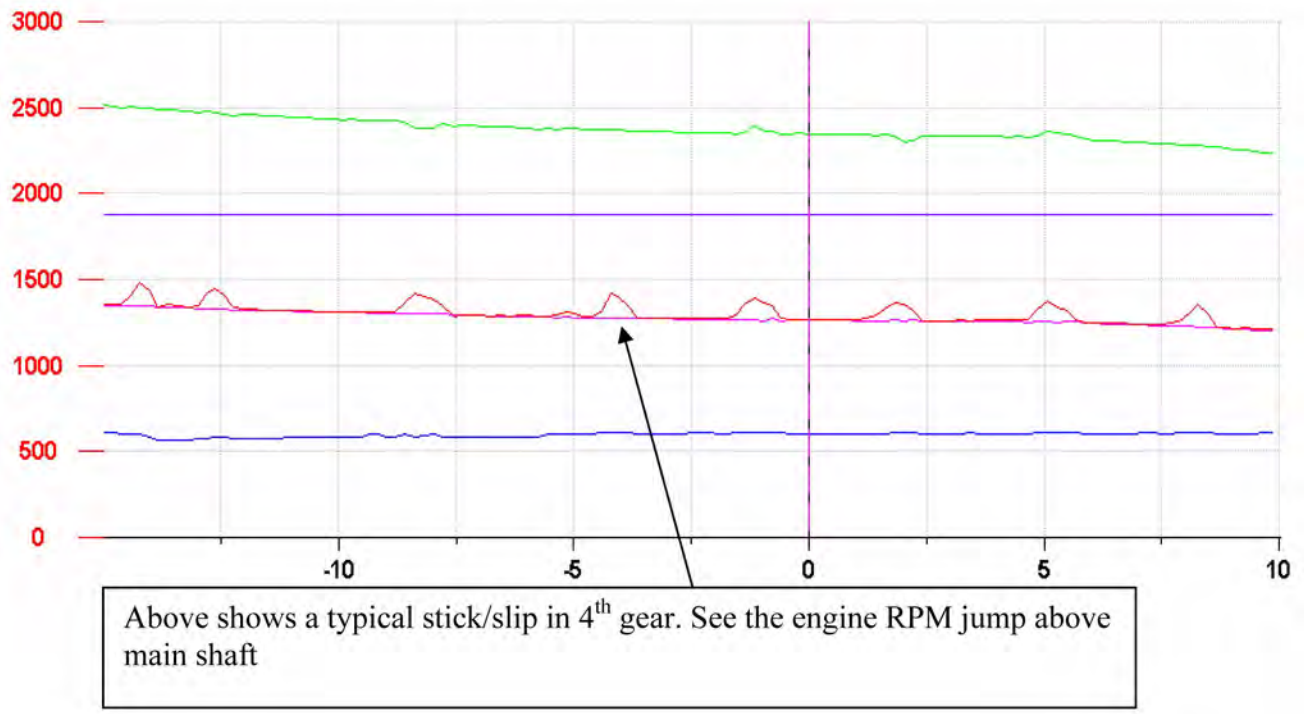
If you are dealing with a vibration caused by a faulty torque converter, you will see oscillations in the Input and Output shaft when the engine speed is smooth as shown below:



Here are a few more examples of vibration being caused by a faulty torque converter:



If you're feeling the vibration while under a steady cruise, look for Engine Speed to be briefly jumping above Main Shaft speed. This would indicate that the torque converter is experiencing a stick/slip condition as shown below:



Above shows a typical stick/slip in 4th gear. See the engine RPM jump above main shaft